



**Test Report  
(SVHC)**

No. GZ1012147071/CHEM

Date: DEC 29, 2010

Page 1 of 7

SHENZHEN FENGGUANGXIN ELECTRONICS CO., LTD  
JINBAO PAVILION, JINBAOCHENG BUILDING, HUAFA SOUTH-RD, FUTIAN DISTRICT, SHENZHEN,  
P.R.CHINA

The following sample(s) was/were submitted and identified by/on behalf of the client as:  
Transistor

SGS Job No. : SZ12901885  
 SGS Internal Reference No. : 4.3  
 Tested sample information : SOT-23  
 Client Reference Information : SOT-89 / SOT-323 / SOT-252 / TO-92 / TO-92S / TO-92L /  
 TO-126 / TO-251 / TO-220  
 Date of Sample Received : DEC 22, 2010  
 Testing Period : DEC 22, 2010 TO DEC 29, 2010

Test Requested : As requested by client, SVHC screening is performed according to:  
Forty six (46) substances in the Candidate List of Substances of Very High Concern (SVHC) for authorization published by European Chemicals Agency (ECHA) on and before Dec 15, 2010 regarding Regulation (EC) No 1907/2006 concerning the REACH.

Test Result(s) : Please refer to next page(s).

Summary :

According to the specified scope and analytical techniques, concentrations of tested SVHC are $\leq 0.1\%$ (w/w) in the submitted sample.
---

PASS

Signed for and on behalf of  
SGS-CSTC Ltd.

David Zhou  
Approved Signatory

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at [http://www.sgs.com/terms\\_and\\_conditions](http://www.sgs.com/terms_and_conditions). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not constitute part of a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated, the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.



SGS-CSTC Standards Technical Services Co., Ltd  
Guangzhou Environmental and Chemical Laboratory

198 Kazuo Road, Science Park, Guangzhou Economic & Technology Development District, Guangzhou, China 510663 | (86-20) 82155555 | (86-20) 82075125 | www.cn.sgs.com  
中国·广州·经济技术开发区科学城科珠路198号 邮编: 510663 | (86-20) 82155555 | (86-20) 82075125 | e sgs.china@sgs.com

**Remark :**

- (1) The chemical analysis of specified SVHC is performed by means of currently available analytical techniques against the following SVHC related documents published by ECHA:  
[http://echa.europa.eu/chem\\_data/authorisation\\_process/candidate\\_list\\_table\\_en.asp](http://echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp)  
These lists are under evaluation by ECHA and may subject to change in the future.
- (2) In accordance with Regulation (EC) No 1907/2006, any EU producer or importer of articles shall notify ECHA, in accordance with paragraph 4 of Article 7, if a substance meets the criteria in Article 57 and is identified in accordance with Article 59(1) of the Regulation, if (a) the substance in the Candidate List is present in those articles in quantities totaling over one tonne per producer or importer per year; and (b) the substance in the Candidate List is present in those articles above a concentration of 0.1% weight by weight (w/w).
- (3) Article 33 of Regulation (EC) No 1907/2006 requires supplier of an article containing a substance meeting the criteria in Article 57 and identified in accordance with Article 59(1) in a concentration above 0.1% weight by weight (w/w) shall provide the recipient of the article with sufficient information, available to the supplier, to allow safe use of the article including, as a minimum, the name of that substance in the Candidate List.
- (4) If a SVHC is found over the reporting limit, client is suggested to identify the component which contains the SVHC and the exact concentration of the SVHC by requesting further quantitative analysis from the laboratory.

**Test Sample :**

Sample Description :

<b>Specimen No.</b>	<b>Description</b>
001	Black body w/ silvery metal pin

**Test Method :**

SGS In-House method-RSTS-EE-SVHC-003, RSTS-EE-SVHC-004, Analyzed by ICP-OES, GC-MS and UV-VIS.

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at [http://www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not separate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated, the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.





**Test Report**  
(SVHC)

No. GZ1012147071/CHEM

Date: DEC 29, 2010

Page 3 of 7

**Test Result: (Substances in the Candidate List of SVHC)**

Substance Name	CAS No.	EC No.	Concentration(%)	RL(%)
			001	
2,4-Dinitrotoluene	121-14-2	204-450-0	ND	0.050
2-Ethoxyethanol	110-80-5	203-804-1	ND	0.050
2-Methoxyethanol	109-86-4	203-713-7	ND	0.050
4,4'-Diaminodiphenylmethane(MDA)	101-77-9	202-974-4	ND	0.050
5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	201-329-4	ND	0.050
Acrylamide	79-06-01	201-173-7	ND	0.050
Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	287-476-5	ND	0.050
Aluminosilicate Refractory Ceramic Fibres*	650-017-00-8 (Index no.)	-	ND	0.005
Ammonium dichromate*	7789-09-5	232-143-1	ND	0.005
Anthracene	120-12-7	204-371-1	ND	0.050
Anthracene oil*	90640-80-5	292-602-7	ND	0.050
Anthracene oil, anthracene paste*	90640-81-6	292-603-2	ND	0.050
Anthracene oil, anthracene paste, anthracene fraction*	91995-15-2	295-275-9	ND	0.050
Anthracene oil, anthracene paste, distn. Lights*	91995-17-4	295-278-5	ND	0.050
Anthracene oil, anthracene-low*	90640-82-7	292-604-8	ND	0.050
Benzyl butyl phthalate (BBP)	85-68-7	201-622-7	ND	0.050
Bis(2-ethylhexyl)phthalate (DEHP)	117-81-7	204-211-0	ND	0.050
Bis(tributyltin)oxide (TBTO)	56-35-9	200-268-0	ND	0.050
Boric acid*	10043-35-3 11113-50-1	233-139-2 234-343-4	ND	0.005
Chromic acid, Oligomers of chromic acid and dichromic acid, Dichromic acid*	7738-94-5 - 13530-68-2	231-801-5 - 236-881-5	ND	0.005
Chromium trioxide*	1333-82-0	215-607-8	ND	0.005

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at [http://www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not constitute part of a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated, the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.





**Test Report**  
(SVHC)

No. GZ1012147071/CHEM

Date: DEC 29, 2010

Page 4 of 7

Substance Name	CAS No.	EC No.	Concentration(%)	RL(%)
			001	
Cobalt dichloride*	7646-79-9	231-589-4	ND	0.005
Cobalt(II) carbonate*	513-79-1	208-169-4	ND	0.005
Cobalt(II) diacetate*	71-48-7	200-755-8	ND	0.005
Cobalt(II) dinitrate*	10141-05-6	233-402-1	ND	0.005
Cobalt(II) sulphate*	10124-43-3	233-334-2	ND	0.005
Diarsenic pentaoxide*	1303-28-2	215-116-9	ND	0.005
Diarsenic trioxide*	1327-53-3	215-481-4	ND	0.005
Dibutyl phthalate (DBP)	84-74-2	201-557-4	ND	0.050
Diisobutyl phthalate	84-69-5	201-553-2	ND	0.050
Disodium tetraborate, anhydrous*	1303-96-4 1330-43-4 12179-04-3	215-540-4	ND	0.005
Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified ( $\alpha$ -HBCDD, $\beta$ -HBCDD, $\gamma$ -HBCDD) $\Delta$	25637-99-4 and 3194-55-6	247-148-4 and 221-695-9	ND	0.050
Lead chromate*	7758-97-6	231-846-0	ND	0.005
Lead chromate molybdate sulphate red (C.I. Pigment Red 104)*	12656-85-8	235-759-9	ND	0.005
Lead hydrogen arsenate*	7784-40-9	232-064-2	ND	0.005
Lead sulfochromate yellow (C.I. Pigment Yellow 34)*	1344-37-2	215-693-7	ND	0.005
Pitch, coal tar, high temp.*	65996-93-2	266-028-2	ND	0.050
Potassium chromate*	7789-00-6	232-140-5	ND	0.005
Potassium dichromate*	7778-50-9	231-906-6	ND	0.005
Sodium chromate*	7775-11-3	231-889-5	ND	0.005
Sodium dichromate*	7789-12-0 and 10588-01-9	234-190-3	ND	0.005
Tetraboron disodium heptaoxide, hydrate*	12267-73-1	235-541-3	ND	0.005
Trichloroethylene	79-01-6	201-167-4	ND	0.050
Triethyl arsenate*	15606-95-8	427-700-2	ND	0.005
Tris(2-chloroethyl)phosphate	115-96-8	204-118-5	ND	0.050
Zirconia Aluminosilicate Refractory Ceramic Fibres*	650-017-00-8 (Index no.)	-	ND	0.005

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at [http://www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not constitute part of a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated, the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.



SGS Standards Technical Services Co., Ltd  
Guangzhou Environmental Chemistry Laboratory

199 Kazuo Road, Science Park Guangzhou Economic & Technology Development District, Guangzhou, China 510663 | (86-20) 82155555 | (86-20) 82075125 | www.cn.sgs.com  
中国·广州·经济技术开发区科学城科珠路199号 | 邮编: 510663 | (86-20) 82155555 | (86-20) 82075125 | e sgs.china@sgs.com

## Notes:

- (1). RL = Reporting Limit. All RL are based on homogenous material.  
ND = Not detected (lower than RL), ND is denoted on the target compound.
- (2). <sup>Δ</sup> CAS No. of diastereoisomers identified ( $\alpha$ -HBCDD,  $\beta$ -HBCDD,  $\gamma$ -HBCDD): 134237-50-6, 134237-51-7, 134237-52-8.
- (3). \* The test result is based on the calculation of selected element(s) / marker(s) and to the worst-case scenario. For detail information, please refer to the SGS REACH website:  
[www.reach.sgs.com/substance-of-very-high-concern-analysis-information-page.htm](http://www.reach.sgs.com/substance-of-very-high-concern-analysis-information-page.htm)

Calculated concentration of boric acid, disodium tetraborate, anhydrous and tetraboron disodium heptaoxide, hydrate are based on the water extractive boron and sodium by ICP-OES.

RL = 0.005% is evaluated for element (i.e. cobalt, arsenic, lead, sodium, chromium, chromium (VI), silicon, aluminum, zirconium, boron and potassium respectively), except molybdenum  
RL=0.0005%

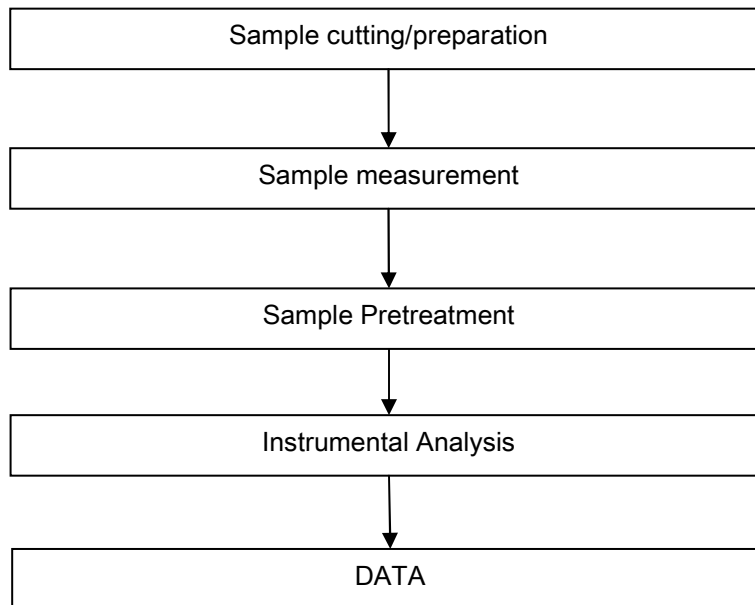
This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at [http://www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not separate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated, the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.



## ATTACHMENTS

### SVHC Testing Flow Chart

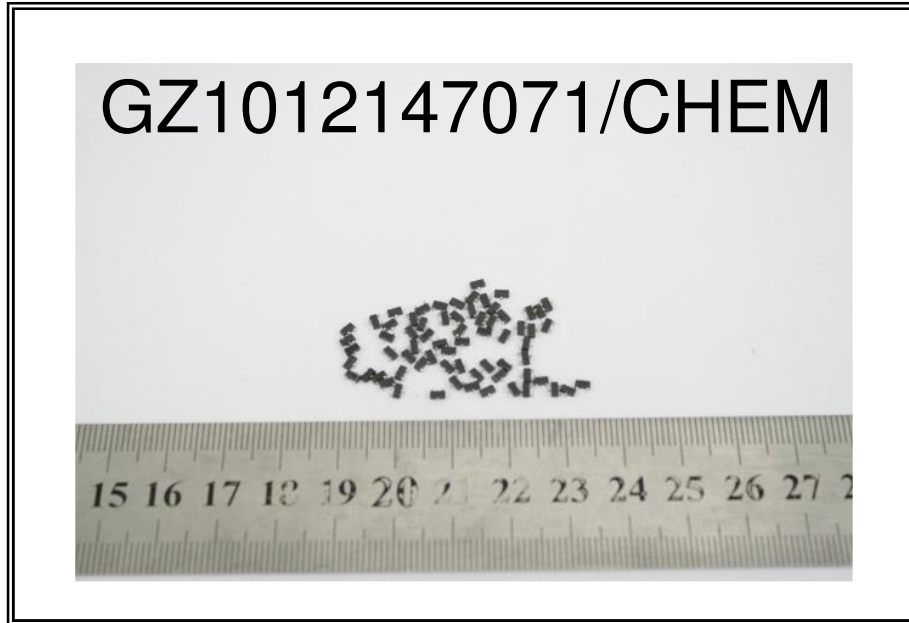
- 1) Name of the person who made testing: Bella Wang / Tina Zhao
- 2) Name of the person in charge of testing: Adams Yu / Ryan Yang



This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at [http://www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not constitute part of a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated, the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.



Sample photo:



SGS authenticate the photo on original report only

\*\*\* End of Report \*\*\*

This document is issued by the Company under its General Conditions of Service printed overleaf or available on request and accessible at [http://www.sgs.com/terms\\_and\\_conditions.htm](http://www.sgs.com/terms_and_conditions.htm). Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not separate parties to a transaction from exercising all their rights and obligations under the transaction documents. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated, the results shown in this test report refer only to the sample(s) tested. This document cannot be reproduced except in full, without prior approval of the Company.

